

REMARKS

Claims 1-15 are pending in the application prior to entering this amendment.

The examiner rejects claims 1-15 under 35 U.S.C. § 102(e) as being anticipated by Chinthammit et al (U.S. 6,867,753).

The applicants amend claims 1, 4-5, and 10.

The application remains with claims 1-15 after entering this amendment.

The applicants add no new matter and request reconsideration.

Claims Rejections Under § 102(e)

The examiner remains steadfast that Chinthammit renders old claims 1-15. The applicants must continue to disagree for the reasons that follow.

Claim 1 recites *a controller ... to predistort image data... such that the predistorted image data projects an undistorted keystone corrected image on a projection surface not perpendicular to a projection axis*. Claim 5 recites *predistortion means for predistorting image data ... such that the predistorted image data projects an undistorted keystone distortion corrected image on a projection surface not perpendicular to a projection axis*. Claim 10 recites *predistorting image data ... such that the predistorted image data projects a projected image without keystone distortion on a projection surface not perpendicular to a projection axis*.

The examiner alleges Chinthammit teaches, at column 2, lines 48-50, “a controller coupled to the accelerometer to pre-distort image data responsive to the tilt and the rotation.” The examiner misunderstands Chinthammit, and perhaps the recited invention. Chinthammit seeks to register an image on a display on a real world background. Registration, according to Chinthammit, is the “process of aligning a virtual image to a specific location in a real world background.” Column 7, lines 34-35. Chinthammit exemplifies “poor registration in a head tracking system may result in a user perceiving the movement of a virtual cup on a real table while they walk around the table looking at what is supposed to be a stationary cup on a real table.” Column 7, lines 36-40. Chinthammit addresses poor registration by identifying the temporal location of the detector to a sub-pixel/sub-line precision by “determining the location independently from the temporal resolution of the augmented imaging system.” Abstract. “The augmented image is *registered* either to a 3D real world spatial coordinate system or to a time domain coordinate system based upon tracked position and orientation of the user.” Id. Simply put, Chinthammit “determines the user’s viewpoint so that the

augmenting virtual image is always aligned relative to the real object.” Column 3, lines 10-12.

Chinhammit, therefore, addresses a distinctly different problem than is addressed by the present invention. From Figures 1 and 2, it should be evident that Chinhammit’s rendering field of view 20 is parallel to its scanning field of view 22. In such instances, keystone distortion due to an image’s projection axis not being perpendicular to a projection surface does not occur. It is difficult to imagine that Chinhammit would disclose a solution to a problem it does not have.

The examiner cites column 2, lines 48-50, as disclosing “that the apparatus is able to utilize its tracking system to distort or provide a more accurate image based upon a real world background, which includes tilt and rotation.” Final Action, page 3. But no part of Chinhammit suggests such pre-distortion to correct keystone distortion. Chinhammit’s hybrid tracking system provides information that allow it to “provide a more accurate augmented image registration.” That is, its tracking system allows it to position, align, and otherwise register the overlaid or “augmented” image on to the real world background.

The examiner is incorrect to equate correct alignment of the augmented image as displayed on a rendering field of view 20 with a real world background (as disclosed in column 7, lines 48-50) with the projection of pre-distorted image data on a projection screen such that the image data appears undistorted.

CONCLUSION

The applicants request reconsideration and allowance of all claims. The applicants encourage the Examiner to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

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AMENDMENT

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